ConocoPhillips

Wood River Refinery
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November 29, 2006

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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SUBJECT: CONOCOPHILLIPS WOOD RIVER REFINERY; CIVIL ACTION NO. H-05-0258, PARAGRAPH 217

Dear Sir or Madam:

Pursuant to paragraph 217 of the Consent Decree United States of America and the States of Illinois, Louisiana, and New Jersey, Commonwealth of Pennsylvania and the Northwest Clean Air Agency v. ConocoPhillips Company,; Civil Action No. H-05-0258, entered by the District Court for the Southern District of Texas on January 27, 2005, ConocoPhillips Wood River Refinery (WRR) is submitting this Compliance Assurance Plan. A plan is required when it appears the facility has a quarterly uncontrolled benzene quantity of 1.5 Mg or more, the source of which cannot be identified. Our third quarter, 2006, end of line ("EOL") sampling indicates our quarterly uncontrolled benzene waste quantity under the Benzene Waste Operations NESHAP's program was greater than 1.5 Mg.

Background and Lower Lift Station Description

WRR's sampling plan requires quarterly sampling of the following EOL uncontrolled locations:

Wastewater Treatment Plant Lower Lift Station
Docks/CH-210
Main Plant Groundwater (Well #83)
Distilling West process sewer sump
Solids Dewatering Facility Mix Tank (B-146)
Primary Solids Decant Dumpster

The third quarter lower lift station sampling results indicate an uncontrolled benzene quantity of 1.49 Mg at that sampling point. When combined with the other above EOL locations, the total quarterly uncontrolled benzene quantity is 1.64 Mg. Details of the calculations are provided on the attachment.

The lower lift station receives a long-term average of approximately 5,200 gpm of process wastewater from the uncontrolled process sewer system. This system consists of several thousand feet of laterals and trunk lines, more than 1000 inlet drains, and numerous manholes. Much of the system was installed in the early 1900's, as a result many sewer drawings are either out of date or do not exist. Our annual TAB report lists more than 1000 different waste streams into this system.

Action Taken to Date and Measures for the Future

Given the complexity of the system leading to the lower lift station, considerable effort has gone into understanding the nature and scope of the elevated benzene levels observed at that location. Summarized below is the work done to date, specific actions we have taken to reduce uncontrolled benzene quantities from other sources, and a discussion of our forward plans to ensure compliance with the annual 6.0 Mg limit.

Initially WRR believed that the elevated benzene levels might be coming from an aqueous benzene source. This initial assessment was based upon the returned sample vials from our contract laboratory, Teklab, which were observed for the presence of visible separate-phase hydrocarbon. In most vials, no visible hydrocarbon was present. In the vials where hydrocarbon was present, it existed only as a very thin film. The TAB identifies a low flow, high benzene concentration aqueous stream from the Benzene Extraction Unit. This stream appeared to be the most likely candidate for the unexplained contribution. Therefore, beginning in early October, we began an investigation of all streams from this unit. This investigation lasted for approximately three weeks and included logging periods of time when the unit process wastewater sump was pumped, estimating pumping rates, and analyzing sump samples for benzene content. Based upon the information gathered, however, this unit is not believed to be a significant contributor to the benzene levels observed at the lower lift station.

As a next step, we established a system of key manhole/sump monitoring to improve our understanding of other potential sources of benzene into the process sewer system. This monitoring includes visual observations of how much hydrocarbon may be passing through the manholes, sampling of both hydrocarbon and aqueous phases for benzene content and, where possible, developing estimates of flow. Thus far, the focus has been on manholes/sumps downstream of the units which have the highest potential to contribute benzene concentrations though oil-water partitioning. These units are the naphtha hydrotreating units and the catalytic reforming units. Our initial assumption was that, in a continuously mixed environment such as a process sewer, a condition of hydrocarbon/water/air equilibrium condition would be achieved. Under these conditions, even for these high benzene content hydrocarbons, a very large continuous source or sources of light hydrocarbon would have to exist. To test this assumption, WRR retained Trihydro Corporation for 3.5 days during the week of November 6, to assist us in locating such sources to the process sewers which could have been previously overlooked. Trihydro identified several high concentration, low flow sources of compressor oil draining into the process sewer system, plus some additional sources of lower benzene concentration material. Together, these streams contribute up to 5 Kg/day of benzene to the uncontrolled sewer system, but do not in themselves account for the quantities observed at the lower lift station.

As part of Trihydro's work, however, WRR also observed significant accumulations of light hydrocarbon in some of the manholes/sumps. Our current belief is that an accumulation of light hydrocarbon in a flow-through sump or manhole would allow benzene to continuously partition to the water phase at less than equilibrium levels, limited only by the rate of mass transfer between the phases. If this is occurring, a much smaller source of hydrocarbon could result in the water phase benzene concentrations that we have observed, than if equilibrium conditions were established.

As a result of the information gained by Trihydro's work, WRR will implement the following activities to enable us to further understand the levels of benzene observed at the lower lift station, and/or reduce our overall uncontrolled benzene waste quantity:

1. We will continue to monitor manholes/sumps where hydrocarbon has been observed for re-accumulation of hydrocarbons. We will also look for other areas in the sewers where hydrocarbon may be collecting. Where this is occurring, we will attempt to remove any new accumulations and, with the help of GLC fingerprinting, also attempt to understand any contributing sources to the process sewer. Newly identified sources to the sewer will be evaluated for control. Water flushing to help collect accumulations of hydrocarbon from the process sewer system will be considered where it makes sense.

2. Several waste streams from recovered oil treatment tanks discharge to the lower lift station via a controlled drain system. To the extent these streams are being discharged during sampling events, double counting is occurring. To reduce this likelihood, when possible we will block in these discharges during and preceding sampling events. As fourth quarter samples have already been collected, this practice will begin first quarter, 2007.

3. We have requested Teklab begin a study to understand whether analytical injection equipment is being impacted by the very slight amounts of floating hydrocarbons present in some of the aqueous sample vials. If this is occurring, it is likely that our mass calculation is biased on the high side, because our calculation assumes the sample result represents only the aqueous portion of the sample. We expect this work to be completed by the end of the first quarter, 2007.

4. We plan to use Teklab sampling technicians to conduct the quarterly sampling at some of our EOL locations. This would reduce the number of different personnel conducting sampling, and in the process reduce the variability of sampling results. We expect this to begin in the first quarter, 2007.

5. Well #83 was shutdown on November 21, 2006, and will remain out of service indefinitely. While this source does not discharge to the process sewer system, it does contribute approximately 200 Kg/yr towards our overall annual uncontrolled benzene waste quantity. In December, we expect to complete relocation of a catalytic reformer caustic water wash stream from the process sewer system, to a controlled spent caustic system. This stream contributes approximately 100 Kg/yr towards our overall uncontrolled benzene waste quantity.

6. We will handle waste streams from tank jobs involving slop oils, crude, or light hydrocarbons in a controlled fashion indefinitely. Like Well #83, these streams do not discharge to the process sewer system, but would contribute to our overall annual uncontrolled benzene waste quantity if not controlled.

7. We are also in the process of identifying other significant sources that may warrant controls.

Trihydro's January, 2006, re-evaluation calculated our yearly uncontrolled benzene waste quantity to be 3.66 Mg/yr. Based on their findings and the fact that the third quarter EOL calculation is only marginally greater than 1.5 Mg, we believe that our annual calculation will conclude that we are below 6 Mg for the calendar year. Please contact Jay Rankin at 618-255-2737 with any questions regarding the above information.

Sincerely,

David Dunn
Director, Environmental

Attachment